

southern Nyasaland, and Chapin, *loc.cit.*, records intergrades *P.c.paroptyus* \cong *P.c.graueri* from Moba and Tembwe, on Lake Tanganyika. On the western periphery of its range in Kenya Colony it presumably intergrades with *P.c.feminina*.

Remarks: Females of *P.c.paroptyus* show little marked difference in colour, being slightly more washed with olive on the mantle and with the lower throat rather deeper yellow. The wings of the paratypical series of 11 ♂♂ of *P.c.paroptyus* measure 84–89 (86.4) mm. One or two males of *P.c.paroptyus* adumbrate the head characters of *P.c.cucullatus*, *P.c.frobenii*, etc., in having an extension of yellow from the neck onto the sides of the crown. Some skins of *P.c.nigriceps* also reveal a similar deviationary trend in that race.

P.c.nigriceps has the pale yellow body-colouration of the recently described *P.c.dilutescens* Clancey, 1956: Palmeira, Manhiça, Sul do Save, southern Portuguese East Africa, from which it differs only in having the head-top black, like the face and throat. *P.c.nigriceps* also resembles *P.c.dilutescens* and *P.c.spilonotus* Vigors, 1831: Algoa Bay, eastern Cape Province, South Africa, in having the secondary-coverts and tertials with less sharply defined and paler fringes than in *P.c.paroptyus* and the central and western African representatives. There seems to be no doubt whatsoever that *P.spilonotus* (with the race *P.s.dilutescens*), *P.nigriceps*, *P.collaris*, and the various subspecies of the *P.cucullatus* complex are all conspecific. The valid races of the enlarged species, *P.cucullatus*, are as follows:

- Ploceus cucullatus cucullatus* (Müller), 1776
- Ploceus cucullatus frobenii* Reichenow, 1923
- Ploceus cucullatus bohndorffi* Reichenow, 1887
- Ploceus cucullatus abyssinicus* (Gmelin), 1789
- Ploceus cucullatus feminina* (Ogilvie-Grant), 1907
- Ploceus cucullatus graueri* Hartert, 1911
- Ploceus cucullatus collaris* Vieillot, 1819
- Ploceus cucullatus paroptus* Clancey, 1959
- Ploceus cucullatus nigriceps* (Layard), 1867
- Ploceus cucullatus dilutescens* Clancey, 1956
- Ploceus cucullatus spilonotus* Vigors, 1831

In coastal Kenya Colony, topotypical *P.c.paroptyus* was found breeding in native villages alongside other sociable weavers, namely, *Ploceus bojeri* (Cabanis) and *Ploceus subaureus aureoflavus* Smith. On one occasion it was found consorting in a mixed bird-party with the rare *Ploceus golandi* (Clarke) in the depths of the Sokoke Forest.

The name of the new race is taken from the Latin *paroptus*, slightly roasted—an allusion to the pronounced rusty golden wash on the sides of the lower throat and breast.

The Systematics of the African Grey Tits, *Parus afer* and *Parus griseiventris*

by MRS. B. P. HALL AND MR. MELVIN A. TRAYLOR

Received, 12th November, 1958

The populations of *Parus afer* from Angola to south-western Tanganyika and south to Cape Province are readily separated into three distinct groups.

for which the earliest names are *afer*, *cinerascens* and *griseiventris*. Birds of the *afer* group are characterised by long and deep culmens (13.0–15.0 mm.), a distinct white nape patch, pure white cheeks and edgings to the tail feathers, mouse brown backs and buffish underparts. The *cinerascens* group, to which the names *intermedius*, *damarensis* and *orphanus* apply, differs from the *afer* group in having grey backs and underparts. The *griseiventris* group is characterised by short slender culmens (11.0–12.5) little or no white nape patch, and greyish cheeks and edgings to the tail feathers; back and underparts grey. The names *parvirostris* and *lundarum* have been applied to populations of *griseiventris*.

Birds of the *afer* group are confined to south-central and western Cape Province and neighbouring parts of Basutoland, Orange Free State and extreme western South West Africa. Those of the *cinerascens* group range north from northern Cape Province through South West Africa and along the arid coastal strip of Angola to Benguela in the west, and to Mashonaland and the Inyanga highlands of Southern Rhodesia in the east. The *griseiventris* group inhabits a wide band from southern and central Angola east through Northern Rhodesia and the Katanga to south-western Tanganyika, Nyasaland and Mashonaland.

Besides the physical differences noted above, all groups exhibit strong ecological preferences that can permit them to overlap geographically without interbreeding. The *afer* group is confined to karroo scrub; the *cinerascens* group to thorn bush, chiefly acacia, while *griseiventris* is entirely a bird of the *Brachystegia* woodlands. Stuart Irwin in the following paper describes in detail the relationship of *cinerascens* and *griseiventris* in Southern Rhodesia. In that area they overlap widely geographically but each is confined to its preferred habitat and there is no intergradation. In Angola a similar situation prevails, but without a known overlap: a population of *cinerascens* extends north along the semi-desert thorn country of the coastal strip to Benguela, while in the woods on top of the escarpment just inland, from Huila north to Mt. Moco, is found *griseiventris*. There is no trace of intergradation in any of our specimens from this area, and it is evident that the two are here completely isolated reproductively.

Since, in the two regions where the ranges of the *cinerascens* and *griseiventris* groups are contiguous the forms meet without intergrading, there is a good case for recognising them as two species instead of races of one widespread form. If this is done the question arises as to whether *afer* and the *cinerascens* group should also be considered as separate species. This has been discussed by Macdonald (Contr. Orn. W. So. Afr., 1957: 146) who found some indications of intergradation in specimens of *afer* from Witputs, and in specimens of *cinerascens* from the Keetmanshoop area—there is indeed less likely to be complete ecological segregation between forms of the Karroo scrub and the thorn veld, which in places merge, than between forms of the thorn veld and *Brachystegia* woodland. In addition to the fact that there are indications of intergradation no geographical overlap has been proved, but it should not be overlooked that Levillant, to whose undoubtedly “grey” birds Vieillot gave the name *cinerascens*, stated uncompromisingly that they were common in the “bois mimosas” at Candebou (i.e. Graaff Reinet). Graaff Reinet is well within the known range of *afer* and this may indicate an overlap, though this has not been

supported by recent collecting and there is always some element of doubt about the localities at which Levaillant's birds were actually obtained.

There is thus a less good case for treating *afer* as a separate species from *cinerascens* than for separating *griseiventris*, but both situations represent steps in the progress of speciation. Until concepts of species limits are more clearly defined than at present any decision on the status of each form must necessarily be arbitrary. In deciding to keep *afer* and *cinerascens* conspecific while giving *griseiventris* specific status we have tried to judge each case on its merits within the limits of our present knowledge of the birds in the field.

Clancey (Ibis 1958: 452-454) has recently reviewed the races of the *afer/cinerascens* group in southern Africa. He concluded that within the generally accepted range of *cinerascens* there was a greyer population with purer white ear-coverts and nape in the eastern part of the range east of the Vaal River, in Natal, Transvaal and Southern Rhodesia, and a more buffy population in the west from north-western Cape Province and South West Africa. It was he also who pointed out that Graaff Reinet, which Macdonald, following Levaillant, had made the restricted type locality for *cinerascens*, was within the range of *afer* (as discussed above). He accordingly proposed that it should be altered to Pella's Drift on the lower Orange River. In view of the uncertainty attached to the Levaillant birds this new restriction can be accepted, but it is an unfortunate choice since it still lies close to the range of nominate *afer*. Clancey then uses the name *cinerascens* for the allegedly more buffy western birds, and revives the name *intermedius* (subsequently renaming it *orphnus* Bull. B.O.C. 1958: 133) for the eastern birds.

From the series in the British Museum this division between east and west was not apparent. Mr. Clancey very kindly sent three specimens from Kenhardt and Niekerkshoop, northern Cape Province, which he considered typical of *cinerascens*, and three of *orphnus*. The differences between the two groups of three were immediately apparent and as he had described, but the three "*cinerascens*" were not representative of western birds generally, being close matches with the Keetmanshoop and Klein Karas birds. The three *orphnus* were very fresh, very recently collected specimens. They match closely with one from Tsabong and one from Tsane, western Bechuanaland, and five from Okahandja, Damaraland, also fresh and recently collected. A comparatively recently collected but rather more worn bird from the Erongo Mts. is very little less grey; that this difference is easily attributable to wear is demonstrated by a specimen from Kamanjab, southern Kaokoveld, which is moulting from old buffy plumage into fresh blue grey. In all worn or older birds from the respective areas no colour differences are apparent, all being less pure grey than fresh specimens. Since it is not practicable to restrict the name *cinerascens* to an intermediate population, and one moreover that surrounds a rather debatable type locality, there seems no reason to recognise more than one race from South West Africa to the Transvaal.

There is no question, however, but that nine specimens from the arid coastal plain of Benguela are strikingly paler on the underparts than Damaraland specimens and must be described as:

Parus afer benguelae, subsp. nov.

Type: Adult ♂ from 12 miles S.E. of Benguela, W. Angola: collected by G. W. Lathbury, 12th September, 1957. B.M. Reg. No. 1957.35.3.

Diagnosis: Much paler on the underparts than *cinerascens* with consequently no visible paler edging separating the black breast patch from the remaining underparts as is found between the black and grey in *cinerascens*; averaging smaller in wing length.

benguelae, wing of 6 ♂♂ 72, 75, 76, 77, 77, 78; 2 ♀♀ 71, 73; one unsexed 74: *cinerascens* 17 ♂♂ 78-84 (once 76); 22 ♀♀ 74-84 (once 72).

Size of type: wing 76; culmen 14; tail 55 mm.

Distribution: Arid coastal strip of Benguela, Angola, possibly extending into the coastal region of northern South West Africa.

Remarks: Our nine specimens of *benguelae* are consistent in being much paler on the abdomen and sides of the breast than *cinerascens* from Damaraland, both in comparison with fresh, and therefore purer grey, specimens, and with more worn and therefore buffier birds. All but one are either in fresh plumage or are completing moult. A single female from Orupembe in the northern Kaokoveld is somewhat smaller than typical *cinerascens*, wing 73. It is probable that *benguelae* is not as isolated from *cinerascens* as present collecting would indicate, and the two forms may be found to merge in the coastal strip of northern South West Africa and extreme southern Angola.

From a series of 39 adults of *griseiventris* in Chicago and New York it is evident that there is some geographic variation within this form, but it is not possible to delimit races satisfactorily. There seems to be a slight cline of decreasing wing length from west to east; Angola 21 ♂♂ 77-85 (81.7); 6 ♀♀ 76-82 (79.3); eastern Northern Rhodesia and south-western Tanganyika 3 ♂♂ 78, 79, 79, 3 ♀♀ 76, 78, 79. In colour of the underparts there are two pale populations, one in the area Katanga-eastern Northern Rhodesia-Tanganyika, the other in far western Northern Rhodesia-northern Angola. These are separated by a darker population from central Northern Rhodesia, and there is a second dark population in central and southern Angola in Benguela, Huambo and Huila. Occasional white napes appear in Northern Rhodesian and Angola birds. Although the above differences are evident when series are laid out, it is not possible to satisfactorily limit a pale and a dark race, and we consider *griseiventris* monotypic.

The East African representatives of the Grey Tit, *barakae* and *thruppi*, are isolated geographically from all other forms and are much smaller in wing length, always less than 70. In other characters, however, they are closely related to the *cinerascens* group and must be included with *cinerascens* as subspecies of *afer*. The bill is proportionately long and deep as in *cinerascens* and *afer*, the cheeks are white or near white and distinct from the dirty buff of the underparts, and there is usually a well marked white nape patch. They are also, like *cinerascens*, birds of the acacia, thorn bush country.

The species and races of the Grey Tit we recognise are therefore as follows:

Parus griseiventris Reichenow, 1882: Kakoma, Tanganyika. Monotypic species.

Synonyms: *P. a. parvirostris* Shelley, 1900: Salisbury, S. Rhodesia.
P. a. lundarum White, 1946: Mwinilunga, Northern Rhodesia.

Parus afer

- (a) *Parus afer afer* Gmelin 1789: Cape of Good Hope.
 Synonym: *Parus brunnescens* Reichenow, 1916: Kubub, Namaland,
 (Orange River at approx. 17° E).
- (b) *Parus afer cinerascens* Vieillot, 1818: "Candeboo" error, restricted
 to Pella's Drift, N. Cape Prov. Clancey (Ibis 1958: 453).
 Synonyms: *Parus afer intermedius* Shelley, 1900: Potchefstroom.
Parus afer orphnus Clancey, 1958 (new name for *intermedius*):
 Potchefstroom. *Parus afer damarensis* Reichenow, 1902:
 Damaraland.
- (c) *Parus afer benguelae* Hall & Traylor: Benguela.
- (d) *Parus afer barakae* Jackson, 1899: Njemps, L. Baringo, Kenya.
- (e) *Parus afer thruppi* Shelley, 1885: Somaliland.

We would like to thank the authorities of the American Museum of Natural History in New York for permission to study their material.

The Specific Relationship of *Parus afer* and *Parus griseiventris*

by MR. MICHAEL P. STUART IRWIN

Received, 12th November, 1958

The discussion that follows is intended to be supplementary to that presented by Hall and Traylor in the previous paper and is largely the outcome of a study of the relationship of *Parus afer cinerascens* and *Parus griseiventris* in their now known area of geographical overlap in Southern Rhodesia. These two forms have always been regarded as conspecific, but as has just been shown, there are good and constant morphological distinctions between the two groups and both are representative of different, and faunistically distinctive biomes.

In *Bull. B.O.C.*, 76, 1956: 114-115 I discussed some aspects of the adaptive differences in bill size in the Southern Rhodesian forms as then understood, in which it was demonstrated that the thin billed *griseiventris* was restricted in its distribution to well-developed *Brachystegia* woodland, whilst *cinerascens* occurred only in acacia thorn veld or scrub. It was then believed that the two forms intergraded in the Midlands, but the additional material now available, makes it clear that the differences are clear cut and constant.

When it was first realised that an actual case of geographical overlap existed, with strict ecological segregation in different habitats, it was thought to be a marginal one between races, but it is now realised, that what we are dealing with, are in reality members of two distinct specific groups.

Without first having examined material, it was clear from the existing literature that the two northern races *P.a. barakae* and *P. a. thruppi*, were morphologically and in their ecological preferences, more similar to the southern *P. afer* and its races, than to the geographically intervening *P. griseiventris*. It was therefore assuring to find that the authors of the previous paper had independently arrived at the same conclusion and were prepared to recognise two species.